

APPENDIX D

FISH AND WILDLIFE TABLES

TABLE D.1. FISH

TABLE D.2. MAMMALS

TABLE D.3. BIRDS

TABLE D.4. REPTILES

TABLE D.5. AMPHIBIANS

Detailed Key to Tables D.1 through D.5

ABUNDANCE

The following definitions were used for mammals, reptiles, amphibians, and fish:

Common (C) – Species that are likely to be found on Fort Belvoir.

Uncommon (U) – Species that have been identified on Fort Belvoir in the last 10 years but not frequently enough to meet the requirement of Common.

These species may occur at Fort Belvoir, but they are not expected to occur.

Historical (H) – Species that have been recorded on Fort Belvoir but not in the last 10 years. These species could occur as one individual or as a small group on rare occasions. Species placed in this category could be present on Fort Belvoir at the levels of abundant or occasional but due to the areas sampled or the behavior of the species, they were not identified

Birds were rated based on a Checklist of Birds in the Fort Belvoir Area (Fleming 1997). This checklist identifies each species as:

Abundant (A) – Very common

Common (C) – Likely to be present in suitable habitat (should see or hear)

Uncommon (U) – Present in small numbers (might see or hear)

Occasional (O) – Seen or heard only a few times during a season

Rare (R) – May be present but not every year

HABITAT USAGE

The following categories were used to assign and rate the various habitats on Fort Belvoir for mammals, reptiles, amphibians, and fish:

Preferred habitat – This is the habitat where this species spends most of its time. This habitat contains characteristics to which the species is most adapted.

Common habitat – This habitat may be used when the preferred habitat is locally not present or unavailable due to high population densities in the preferred habitat. This habitat may also be used for travel between other suitable habitats.

Rarely used habitat – This habitat is unlikely to be used by this species. On rare occasions, this habitat may only be used for travel between other habitats.

HABITAT DESCRIPTIONS

The following definitions were used to characterize the habitats that may be used by mammals, reptiles, birds, and amphibians:

Open Water – Any water area including creeks, rivers, lakes, ponds and bays that do not have emergent vegetation.

Emergent Wetlands – Wetland areas such as marshes that contain emergent vegetation.

Bottomland Forest – Periodically flooded low/land forests along streams or rivers (riparian areas).

Upland Forest – Wooded areas with soils that are typically moderately well to well drained.

Grassland – Areas that are vegetatively dominated by grasses. These areas may contain a few shrubs or trees. This habitat description also includes the brush/shrub areas that are typical in areas where forested habitat adjoins grassland habitat. These areas are very important to a variety of wildlife including birds, mammals and reptiles.

Maintained – Any developed area that is routinely maintained including golf courses, road side ditches, agricultural fields, lawns, ornamental vegetation, and gardens.

Critical Habitats – This habitat is crucial for the existence of the species. The elimination of this habitat would inhibit the ability of the species to sustain a population.

The following habitat definitions were used for fish:

Deep water - All water with depths greater than 10 feet. These areas are typically not used for spawning and do not typically provide adequate vegetation for cover.

Shallow water - All water with depths of less than 10 feet. These areas may be used for spawning and may provide adequate vegetation for cover. Sunlight penetrating shallow water supports phytoplankton, benthic algae, and submerged aquatic vegetation, which provides potential productive areas for small fish and spawning.

Ponds - All inland freshwater bodies located on Fort Belvoir.

Streams - All flowing systems including Accotink Creek, Pohick Creek, Dogue Creek and their tributaries.

Emergent marsh - A water system with little or no current which contains emergent vegetation.

BREEDING PERIOD

The breeding period for each species was based on regional literature. The breeding period identifies the generally accepted time period in which a particular species mates and lays eggs (if applicable), until the emergence of the young (through hatching or birth). With amphibians, this also includes the time period needed for metamorphosis.

Detailed Key to Tables D.1 through D.5

Table D.1: Inland Fishes Collected on Fort Belvoir

Common Name	Scientific Name	Abundance			Stream Size	Spawn Status
		Spring	Summer	Fall		
Lampreys	Petromyzontidae					
American brook lamprey	<i>Lampetra appendix</i>	0	r	0	1	R
Gars	Lepisosteidae					
Longnose gar	<i>Lepisosteus osseus</i>	c	r	0	2	R
Bowfins	Amiidae					
Bowfin	<i>Anisognathus carvalhoi</i>	r	r	r	2	R
Freshwater eels	Anguillidae					
American eel	<i>Anguilla rostrata</i>	a	a	c	3	C
Herrings	Clupeidae					
Blueback herring	<i>Alosa aestivalis</i>	0	a	o	2	A
Alewife	<i>Alosa pseudoharengus</i>	a	c	a	2	A
Gizzard shad	<i>Dorosoma cepedianum</i>	a	a	c	2	R
Trouts	Salmonidae					
Rainbow trout	<i>Oncorhynchus mykiss</i>	r	r	r	3	R
Anchovies	Engraulidae					
Bay anchovy	<i>Anchoa mitchilli</i>	o	r	o	2	E
Carp and Minnows	Cyprinidae					
Goldfish	<i>Carassius auratus</i>	o	o	o	2	R
Rosy-side dace	<i>Climostomus funduloides</i>	a	a	o	1	R
Satinfin shiner	<i>Cyprinella analostana</i>	r	r	r	3	R
Spotfin shiner	<i>Cyprinella spiloptera</i>	c	a	a	3	R
Common carp	<i>Cyprinus carpio</i>	a	a	a	2	R
Culips minnow	<i>Eryglossum maxillingua</i>	r	r	r	2	R
Common shiner	<i>Luxilus cornutus</i>	a	a	o	3	R
Eastern silvery minnow	<i>Hybognathus regius</i>	o	a	a	3	R
River chub	<i>Nothonotus microtopon</i>	o	a	c	3	R
Golden shiner	<i>Nothonotus crysoleucus</i>	o	a	o	3	R
Bridle shiner	<i>Notropis bifrenatus</i>	c	o	c	3	R
Spottail shiner	<i>Notropis hudsonius</i>	a	a	a	3	R
Swallowtail shiner	<i>Notropis procone</i>	r	o	o	3	R
Blacknose dace	<i>Rhinichthys atratulus</i>	a	a	a	3	R
Longnose dace	<i>Rhinichthys cataractus</i>	c	a	a	3	R
Creek chub	<i>Semotilus atromaculatus</i>	c	c	c	1	R
Fall fish	<i>Semotilus corporalis</i>	r	r	r	3	R

Table D.1: Inland Fishes Collected on Fort Belvoir

Common Name	Scientific Name	Abundance			Stream Size	Spawn Status
		Spring	Summer	Fall		
Suckers	Catostomidae					
Qillback	<i>Carpoides cyprinus</i>	r	c	r	2	R
White sucker	<i>Catostomus commersoni</i>	c	c	c	3	R
Greek chubsucker	<i>Erimyzon oblongus</i>	c	c	c	3	R
Northern hog sucker	<i>Hypentelium nigricans</i>	r	r	o	2	R
Shorthcad redhorse	<i>Moxostoma macrolepidotum</i>	r	r	r	2	R
Bullhead catfishes	Ictaluridae					
Yellow bullhead	<i>Ameiurus natalis</i>	c	c	c	2	R
Brown bullhead	<i>Ameiurus nebulosus</i>	c	c	c	2	R
Channel catfish	<i>Ictalurus punctatus</i>	c	c	c	2	R
white catfish	<i>Ameiurus catus</i>	o	o	o	2	R
Needlefishes	Belontiidae					
Atlantic needlefish	<i>Strongylura marina</i>	r	r	r	2	E
Mudminnows	Umbriidae					
Eastern mudminnow	<i>Umbrapygmaea</i>	c	c	c	1	R
Killifishes	Cyprinodontidae					
Banded killifish	<i>Fundulus diaphanus</i>	a	a	a	3	R
Mummichog	<i>Fundulus heteroclitus</i>	c	o	a	2	R
Livebearers	Poeciliidae					
Eastern mosquitofish	<i>Gambusia holbrookii</i>	o	o	o	3	R
Mosquitofish	<i>Gambusia affinis</i>	o	o	a	3	R
Silversides	Atherinidae					
Inland silverside	<i>Menidia beryllina</i>	c	a	a	2	R
Temperate Basses	Perchthiyidae					
White perch	<i>Morone americana</i>	o	a	a	2	R
Striped bass	<i>Morone saxatilis</i>	r	c	o	2	A

Table D.1: Inland Fishes Collected on Fort Belvoir

Common Name	Scientific Name	Abundance			Stream Size	Spawn Status
		Spring	Summer	Fall		
Sunfishes	Centrarchidae					
Bluespotted sunfish	<i>Etheostomus gloriosus</i>	o	r	o	3	R
Redbreasted sunfish	<i>Lepomis auritus</i>	a	a	a	3	R
Green sunfish	<i>Lepomis cyanellus</i>	o	o	o	3	R
Pumpkinseed	<i>Lepomis gibbosus</i>	a	a	a	3	R
Redear sunfish	<i>Lepomis microlophus</i>	r	r	r	3	R
Bluegill	<i>Lepomis macrochirus</i>	a	a	a	3	R
Walleye	<i>Stizostedion vitreum</i>					
Walleye	<i>Lepomis gulosus</i>	o	o	o	2	R
Longear sunfish	<i>Lepomis megalotis</i>	r	o	r	3	R
White crappie	<i>Pomoxis annularis</i>	r	r	r	2	R
Black crappie	<i>Pomoxis nigromaculatus</i>	o	o	o	2	R
Smallmouth bass	<i>Micropterus dolomieu</i>	o	o	o	2	R
Largemouth bass	<i>Micropterus salmoides</i>	c	c	a	2	R
Perches	Peridae					
Tessellated darter	<i>Etheostoma olmstedi</i>	a	a	a	3	R
Yellow perch	<i>Perca flavescens</i>	c	c	c	2	R
Drumes	Sciaenidae					
Spot	<i>Leiostomus xanthurus</i>	r	r	r	2	R
Soles	Soleidae					
Hogchoker	<i>Trinectes maculatus</i>	c	r	r	2	R

Sources: all the reports cited, plus Fort Belvoir unpublished data

Relative Abundance : Abundant = a. numerous individuals, captured in high numbers at several stations.

Common = c. likely to be captured, present, but not at every station.

Occasional = o. possible to be captured, only captured every now and then.

Rare = r. unlikely to be collected, captured at few stations in very low numbers.

Seasons :
 Spring = march - May
 Summer = June - July
 Fall = August - October

Spawning Status :
Stream Status : Small stream = 1 (I.E. Mason Run)

Large stream = 2 (I.E. Accotink Creek)
 Uses both small and large streams = 3

Anadromous = A. Fishes living in the ocean, but which enter freshwater streams to spawn.
Catadromous = C. Fishes living in freshwater streams, but which return to the ocean to spawn.
Estuarine = E. Fishes unlikely to be located above the mouth of a stream.
Resident = R. Fishes that are year round residents.